



Material Safety Data Sheet

Better Chemistry. Better Business.

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SECTION I - PRODUCT IDENTIFICATION

TRADE NAME: Liquid Caustic Soda, 50% **PRODUCT CODE:** 4782001
CHEMICAL NAME: Sodium Hydroxide in Aqueous Solution **REVISION DATE:** May 3, 2010
CHEMICAL FAMILY: N/A

SECTION II - HAZARDOUS INGREDIENTS

SODIUM HYDROXIDE (APPROX) 5.5 – 51.5%, CAS 1310-73-2, TLV=2 MG/M3, REGULATED UNDER CWA/311, NIOSH CRITERIA DOCUMENTS, CERCLA, OSHA AIR CONTAMINANTS, ACGIH TLV CHEMICALS, DOT HAZARDOUS MATERIALS, DOT HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES; AND RADIONUCLIDES, CANADIAN IDL 1% CONC., MA SUBSTANCE LIST, NJ RIGHT-TO-KNOW HAZ SUBSTANCE LIST S, PA HAZARDOUS SUBSTANCE LIST E; CERCLA RQ IS 1000 LB.

NO OTHER INGREDIENTS IN THIS MIXTURE ARE CONSIDERED TO BE HAZARDOUS ACCORDING TO ANY STATE OR FEDERAL REGULATIONS.

SECTION III - PHYSICAL DATA

PHYSICAL STATE: Liquid **ODOR:** Odorless
BOILING POINT/RANGE: 230-291 F (110-144 C) **VAPOR PRESSURE:** 13 135 mmHg @ 60 C
FREEZING POINT/ RANGE: -26 to 59 F (-32 to 15 C) **pH:** 14.0 (7.5% solution)
VAPOR DENSITY (air = 1): No data available **SPECIFIC GRAVITY (water = 1)** 1.11 – 1.53 @15.6C
WATER SOLUBILITY= 100% **VOLATILITY:** No data available
EVAPORATION RATE (ether = 1): No data available
PARTITION COEFFICIENT (n-octanol/water): No data available
APPEARANCE: Clear to opaque, colorless to slightly colored

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (F): Not flammable
FIRE HAZARD: Negligible fire hazard.
EXTINGUISHING MEDIA: Use media appropriate for surrounding fire.
FIRE FIGHTING: Move container from area if it can be done without risk. Cool containers with water. Avoid contact with skin.
SENSITIVITY TO MECHANICAL IMPACT: Not sensitive.
SENSITIVITY TO STATIC DISCHARGE: Not sensitive.

SECTION V - HEALTH HAZARD DATA

HMIS: HEALTH: 3 **FIRE:** 0 **REACTIVITY:** 1
MAJOR HEALTH HAZARDS: CORROSIVE. CAUSES BURNS TO THE RESPIRATORY TRACT, SKIN, EYES AND GASTROINTESTINAL TRACT. CAUSES PERMANENT EYE DAMAGE.
PHYSICAL HAZARDS: CORROSIVE. Mixing with water, acid or incompatible materials may cause splattering and release of heat.

ECOLOGICAL HAZARDS: Keep out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters. This material has exhibited moderate toxicity to aquatic organisms.

PRECAUTIONARY STATEMENTS: Avoid breathing vapors or mist. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Wash thoroughly after handling. Use only with adequate ventilation.

POTENTIAL HEALTH EFFECTS

INHALATION: May cause irritation (possibly severe), chemical burns, and pulmonary edema.

SKIN CONTACT: May cause irritation (possibly severe) and chemical burns.

EYE CONTACT: May cause irritation (possibly severe), chemical burns, nausea, and vomiting.

TARGET ORGANS EFFECTED: Respiratory System, skin, eyes.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Asthma, Respiratory disorders.

FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer basic life support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

SKIN CONTACT: Immediately flush contaminated areas with water. Remove contaminated clothing, jewelry, and shoes immediately. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. Discard contaminated leather goods. GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT: Immediately flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissues. Washing eyes within several seconds is essential to achieve maximum effectiveness. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: Never give anything by mouth to an unconscious or convulsive person. If swallowed, do not induce vomiting. Give large amounts of water. If vomiting occurs spontaneously, keep airway clear. Give more water when vomiting stops. GET MEDICAL ATTENTION IMMEDIATELY.

Notes to Physician: The absence of visible signs or symptoms of burns does NOT reliably exclude the presence of actual tissue damage, Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION VI – REACTIVITY DATA

REACTIVITY/STABILITY: Stable at normal temperatures and pressures.

INCOMPATIBILITY/MATERIALS TO AVOID: Acids, Halogenated compounds, Prolonged contact with aluminum, brass, bronze, copper, lead, tin zinc or other alkali sensitive metals or alloys.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes of sodium oxide

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Mixing with water. Acid or incompatible materials may cause splattering and release of large amounts of heat. Will react with some metals forming flammable hydrogen gas. Carbon monoxide gas may form upon contact with reducing sugars, food and beverage products in enclosed spaces.

SECTION VII - SPILL OR LEAK PROCEDURES

SPILL, LEAK OR RELEASE: Wear appropriate personal protective equipment. Completely contain spilled material with dikes, sandbags, etc. Shovel dry material into suitable container. Liquid material may be removed with a vacuum truck. Remaining material may be diluted with water and diluted with water and neutralized with dilute acid. Then absorbed and collected. Flush spill area with water, if appropriate. Keep product and flush water out of water supplies and sewers. This material is alkaline and may raise the pH of surface waters with low buffering capacity. Releases should be reported, if required, to appropriate agencies.

WASTE DISPOSAL: Reuse or reprocess, if possible. Dispose in accordance with all applicable regulations. May be subject to disposal regulations: U.S. EPA 40 CFR 261. Hazardous Waste Number(s): D002

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: A NIOSH approved respirator with N95 (dust, fume, mist) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. If eye irritation occurs, a full face style mask should be used. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

VENTILATION: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PROTECTIVE GLOVES: Wear appropriate chemical resistant gloves.

SKIN AND BODY PROTECTION: Wear chemical resistant clothing and rubber boots when potential for contact with the material exists. Contaminated clothing should be removed, then discarded or laundered.

EYE PROTECTION: Wear chemical safety goggles with a faceshield to protect against eye and skin contact when appropriate. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

PROTECTIVE MATERIAL TYPES: Natural rubber, Neoprene, Nitrile.

SECTION IX - SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in aluminum container or use aluminum fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances. Avoid breathing vapor or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. When mixing, slowly add to water to minimize heat generation and spattering.

OTHER PRECAUTIONS: None

SECTION X - TOXICOLOGICAL INFORMATION

TOXICITY DATA

HAZARDOUS COMPONENT	LD50 ORAL	LC50 INHALATION	LD50 DERMAL
Sodium Hydroxide	Not Listed	Not Listed	1350mg/km (Rabbit)
Sodium Chloride (NaCl)	3 g/kg (Rat)	42 g/m ³ (1 hr-Rat)	10 g/kg (Rabbit)

TOXICITY

The severity of the tissue damage is a function of its concentration, the length of tissue contact time, and local tissue conditions. After exposure there may be a time delay before irritation and other effects occur. This material is a strong irritant and is corrosive to the skin, eyes, and mucous membranes. This material may cause severe burns and permanent damage to any tissue with which it comes into contact. Inhalation will cause severe irritation. Possible burns with pulmonary edema, which may lead to pneumonitis. Skin contact with this material may cause severe irritation, corrosion with possible corneal damage and blindness. Ingestion may cause irritation, corrosion/ulceration, nausea and vomiting.

CARCINOGENICITY

This product is not classified as a carcinogen by NTP, IARC or OSHA.

XI - ECOLOGICAL INFORMATION

AQUATIC TOXICITY

This material has exhibited moderate toxicity to aquatic organisms. Data provided are for sodium hydroxide.

Freshwater Fish Data:

LC50 brook trout: 25 ppm/24 hr

LC50 king salmon: 48 ppm

Invertebrate Toxicity Data:

EC50 daphnia magna: 100 ppm

EC50 shrimp: 33 – 100 ppm/ 48 hr

EC50 cockle: 330 – 1000 ppm/ 48 hr

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material is alkaline and may raise the pH of surface waters with low buffering capacity. This material is believed to exist in the disassociated state in the environment.

BIOCONCENTRATION: This material is not expected to bioconcentrate in organisms.

ADDITIONAL ECOLOGICAL INFORMATION: This material has exhibited slight toxicity to terrestrial organisms.

SECTION XII - TRANSPORTATION REQUIREMENTS

PROPER SHIPPING NAME: SODIUM HYDROXIDE SOLUTION

HAZARD CLASS/DIVISION: 8

DOT UN NUMBER: UN1824

PACKING GROUP: II

LABELING REQUIREMENTS: 8

DOT RQ (LBS): RQ 1000 LBS. (SODIUM HYDROXIDE)

NOTICE

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